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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/808,656

**Applicant(s)**

ROTHMAN ET AL.

**Examiner**

HO SHIU

**Art Unit**

2457

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 21 October 2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-20 are pending in this application. Claims 1, 4, and 14 have been amended and claims 18-20 have been added by applicant filed on 10/21/2008.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/21/2008 has been entered.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. **Claims 1-8, 11-15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leigh et al. (Pub # US 2003/0088655 A1, hereinafter Leigh) in**

**view of obviousness and in further view of Chrysanthakopoulos et al. (US Patent # 7,343,441 B1, hereinafter Chrys).**

5. With respect to claim 1, Leigh discloses sharing an input device across a plurality of computing platforms, comprising: ([0028], lines 3-5, [0029], lines 1-4, lines 8-10) routing input data generated at a first server blade to a second server blade, said input data generated in response to receiving an input signal produced by an input device coupled to a first server blade ([0030], lines 5-11); and providing the input data to an operating system running on the second server blade ([0036], lines 1-8, [0037], lines 13-15).

Although Leigh discloses multiple LMC as communication to extract information such as signals for keyboard, mouse, power button, etc. and multiple KVM as a prior art which is used to connect to a set of console devices including keyboard, video monitor, and mouse which are used to input data to the first and second server blades ([0036], [0037]), but Leigh does not explicitly state that wherein routing input data to the first and second server blades and providing the input data to the operating system are performed via a first firmware and a second firmware on the first and second server blades, respectively. However, since Leigh disclosed a KVM interface card daisy-chained with respect to the same way as the LMC controllers, it would have been obvious to one of ordinary skill in the art that Leigh would utilize the LMC in such a way like the KVM for a hardware input device connected to a KVM/LMC to talk to an

operating system or software of any kind to utilize firmware to identify and initialize system components.

In the same field of endeavor, Chrys discloses a basic input/output system (BIOS) (or other firmware model, such as the so called Extensible Firmware Interface) containing the basic routines that help to transfer information between elements within the computer 100 (Fig. 1, elements 101, 102,)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Leigh to incorporate firmware with respect to the input data with the teachings of Chrys pertaining to the BIOS which helps transfer information between elements within a computer in order to appropriately access fundamental hardware components upon computer start-up.

6. With respect to claim 2, Leigh discloses firmware in a manner that is transparent to the operating system running on the second server blade. ([0030], lines 25-30, [0036], lines 1-8, [0037], lines 13-15).

7. With respect to claim 3, Leigh discloses the input device comprises one of a keyboard and mouse ([0037], lines 6-9).

8. With respect to claim 5, Leigh discloses facilitated by firmware stored on each of the resource host and target server blades ([0030], lines 5-11).

9. With respect to claim 6, Leigh discloses maintaining global resource mapping information identifying the resource host and the target server blades ([0028], lines 5-14, [0029], lines 1-10).

10. With respect to claim 7, Leigh discloses a local copy of the global resource mapping data on each of the plurality of server blades ([0028], lines 5-14, [0032], lines 6-8).

11. With respect to claim 8, Leigh discloses maintaining the global resource mapping data via a central global resource manager ([0028], lines 5-14, [0029], lines 1-10).

12. With respect to claim 4, it is similar in scope of claim 1 above, therefore it is rejected for the same reasons as claim 1 above. Leigh discloses sharing keyboard, video and mouse resources across a plurality of computing platforms, comprising ([0030], lines 5-11): routing user input data produced at a resource host server blade in response to user inputs via a keyboard and mouse coupled to the resource host server blade to a target computing platform ([0030], lines 26-32, [0032], lines 1-6); routing video data produced by an operating system running on the target server blade to the resource host server blade ([0036], lines 8-11, [0061], lines 13-16); and processing the

video data at the resource host server blade to generate a video display signal to drive a video display coupled to the resource host server blade ([0061], lines 13-16, [0014], lines 4-7), but Leigh does not explicitly state providing the user input data to an operating system running on the target platform wherein routing user input data to the target computing platform and providing the user input data to the operating system running on the target computing platform are performed via a first firmware on the resource host server blade and a second firmware on the target computing platform respectively. However, since Leigh disclosed a KVM interface card daisy-chained with respect to the same way as the LMC controllers, it would have been obvious to one of ordinary skill in the art that Leigh would utilize the LMC in such a way like the KVM for a hardware input device connected to a KVM/LMC to talk to an operating system or software of any kind to utilize firmware to identify and initialize system components.

In the same field of endeavor, Chrys discloses a basic input/output system (BIOS) (or other firmware model, such as the so called Extensible Firmware Interface) containing the basic routines that help to transfer information between elements within the computer 100 (Fig. 1, elements 101, 102,)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Leigh to incorporate firmware with respect to the input data with the teachings of Chrys pertaining to the BIOS which helps transfer information between elements within a computer in order to appropriately access fundamental hardware components upon computer start-up.

13. With respect to claim 11, Leigh discloses the plurality of server blades comprise a plurality of server blades operate in a blade server environment ([0011], lines 13-16).

14. With respect to claim 12, Leigh discloses the method is performed in a manner that is transparent to operating systems running on the plurality of server blades ([0030], lines 25-30, [0036], lines 1-8, [0037], lines 13-15).

15. With respect to claim 13, Leigh discloses facilitated by firmware running on each of the plurality of server blades ([0030], lines 25-30).

16. With respect to claim 14, Leigh discloses sharing of keyboard, video and mouse resources coupled to the first server blade by performing operations including ([0030], lines 25-30, [0033], lines 1-4): routing input data produced at the first server blade in response to user inputs via the keyboard and mouse to a second server blade (figure 2, [0030], lines 5-14); providing the input data to an operating system running on the second server blade ([0037], lines 13-15); and routing video data produced by the operating system running on the second server blade to a video signal generation component on the first server blade ([0036], lines 8-11, [0061], lines 13-16), but Leigh does not explicitly state that wherein routing input data to the first and second server blades and providing the input data to the operating system are performed via a first firmware and a second firmware on the first and second server blades, respectively. However, since Leigh disclosed a KVM interface card daisy-chained with respect to the



same way as the LMC controllers, it would have been obvious to one of ordinary skill in the art that Leigh would utilize the LMC in such a way like the KVM for a hardware input device connected to a KVM/LMC to talk to an operating system or software of any kind to utilize firmware to identify and initialize system components.

In the same field of endeavor, Chrys discloses a basic input/output system (BIOS) (or other firmware model, such as the so called Extensible Firmware Interface) containing the basic routines that help to transfer information between elements within the computer 100 (Fig. 1, elements 101, 102,)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Leigh to incorporate firmware with respect to the input data with the teachings of Chrys pertaining to the BIOS which helps transfer information between elements within a computer in order to appropriately access fundamental hardware components upon computer start-up.

17. With respect to claim 15, Leigh discloses instructions comprise firmware instructions ([0030], lines 5-11).

18. With respect to claim 17, Leigh discloses the operations are performed in a manner that is transparent to the operating system running on the second server blade ([0036], lines 1-8, [0037], lines 13-15).

19. With respect to claim 18, it is rejected for the same reasons as claim 1 above. In addition, Chrys discloses wherein the first and second firmware utilize an Extensible Firmware Interface (EFI) framework (col. 3, lines 35-40).

20. With respect to claim 19, it is rejected for the same reasons as claim 1 above. In addition, Chrys discloses wherein the first and second firmware runs in the pre-boot prior to operating system load (col. 3, lines 35-40).

21. With respect to claim 20, Leigh and Chrys do not clearly disclose wherein the first and second firmware runs during runtime of the operating system.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made where the first and second firmware runs during runtime of the operating system to be able to recognize what the hardware device is communicating to a software while the operating system is running.

**22. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leigh in view of obviousness and in further Chrys as applied to claim 4 and in even further view of Bigelow et al. (US Pub # 2004/0128562 A1, hereinafter Bigelow).**

23. With respect to claim 9, Leigh does not disclose the user input and video data are routed over an out-of-band communication channel.

In the same field of endeavor, Bigelow discloses where the user input and video data are routed over an out-of-band communication channel ([0036], lines 1-7, [0037], lines 10-14).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Leigh with the teachings of Bigelow in order for communications to occur outside previously established communications method or channel.

24. With respect to claim 10, Leigh does not disclose the OOB communication channel comprises one of a system management bus, an Ethernet-based network, or a serial communication link.

In the same field of endeavor, Bigelow discloses the OOB communication channel comprises one of a system management bus, an Ethernet-based network, or a serial communication link. ([0037], lines 10-14).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Leigh with the teachings of Bigelow in order for communications to occur outside previously established communications method or channel.

25. **Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Leigh, obviousness and Chrys as applied to claim 14 in view of DeCaprio et al. (US Patent # 7,114,180 B1, hereinafter DeCaprio).**

26. With respect to claim10, Leigh and Chryst do not clearly disclose the article comprises a flash device.

In the same field of endeavor, DeCaprio discloses the article comprises a flash device (Column 5, lines 50-57).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Leigh and Chryst with the teachings of DeCaprio in order to efficiently erase and reprogram memory and maintain information without the need of power.

### ***Response to Arguments***

27. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HO SHIU whose telephone number is (571)270-3810. The examiner can normally be reached on Mon-Thur (8:30am - 4:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HTS  
12/24/2008

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